Claims:

1   **1.**   A method for maintaining a connection between a server and a

2   client comprising the steps of:

3   receiving a message;

4   determining whether to store one or more elements of the

5   message;

6   storing the one or more elements of the message when the one or

7   more elements of the message are to be stored;

8   transmitting the message; and

9   determining whether the server has failed and when the server has

10   failed, restoring the server to a pre-failure connection state using the one or more

11   stored message elements.

1   **2.**   The method as recited in claim **1**, further comprising the steps of:

2   determining whether to delay the message; and

3   delaying the transmission of the message until one or more

4   conditions are satisfied when the message is to be delayed

1   **3.**   The method as recited in claim **2**, wherein the one or more

2   conditions comprises successful storage of the one or more elements of the

3   message.

1   **4.**   The method as recited in claim **1**, further comprising the steps of:

2   determining whether to discard the message;

3   discarding the message when the message is to be discarded; and

4   wherein the message is not transmitted when the message is to be

5   discarded.

1   **5.**   The method as recited in claim **1**, further comprising the steps of:

2   determining whether to modify the message; and

3   modifying one or more elements of the message when the

4   message is to be modified.

1   **6.**   The method as recited in claim **1**, wherein the step of restoring the

2   application to a pre-failure connection state using the one or more stored

3   message elements further comprises periodically transmitting an outgoing

4   ·message to maintain the connection until the application is restored.

1   **7.**   The method as recited in claim **1**, further comprising the step of

2   periodically storing a current state of the server and discarding any stored

3   elements that are no longer needed to restore the server to the current state.

1   **8.**   The method as recited in claim **1**, wherein the message is a

2   protocol segment.

1   **9.**   The method as recited in claim **1**, wherein the message conforms

2   to the Transmission Control Protocol (TCP) standard.

1   **10.**   The method as recited in claim **1**, wherein the one or more

2   elements are stored in a log server

1   **11.**   The method as recited in claim **10**, wherein the log server is

2   remotely located from the server.

1   **12.**   The system as recited in claim **1**, wherein the one or more

2   elements are stored in a stable memory in the server.

1   **13.**   The method as recited in claim **1**, wherein the one or more

2   elements are stored in a secondary server.

1   **14.**   The method of claim **1**, further including the step of periodically

2   transmitting, when said server has failed, an outgoing message to the client to

3   maintain the connection until the server is restored.

1   **15.**   A system comprising:

2   a server computer having a process layer, a protocol layer coupled

3   to the process layer through a first wrapper, and a network interface coupled to

4   the protocol layer through a second wrapper;

5   a log server coupled to the first wrapper and the second wrapper;

6   one or more client computers; and

7   one or more network connections between the one or more client

8   computers and the network interface of the server computer.

1   **16.**   The system as recited in claim **15**, wherein the first wrapper is

2   interposed in a first interface between the process layer and the protocol layer,

3   and the second wrapper is interposed in a second interface between the protocol

4   layer and the network interface.

1   **17.**   The system as recited in claim **15**, wherein the first wrapper and the

2   second wrapper are interposed in the protocol layer.

1   **18.**   The system as recited in claim **15**, wherein the first wrapper and

2   second wrapper are capable of receiving a message, determining whether to

3   store one or more elements of the message, storing the one or more elements of

4   the message in the log server when the one or more elements of the message

5   are to be stored, transmitting the message, and determining whether the server

6   has failed and when the server has failed, restoring the server to a pre-failure

7   connection state using the one or more stored message elements.

1   **19.**   The system as recited in claim **18**, wherein the first wrapper and

2   second wrapper are further capable of determining whether to delay the

3   message, and delaying the transmission of the message until one or more

4   conditions are satisfied when the message is to be delayed.

1   **20.**   The system as recited in claim **19**, wherein the one or more

2   conditions comprises successful storage of the one or more elements of the

3   message.

1   **21.**   The system as recited in claim **18**, wherein the first wrapper and

2   second wrapper are further capable of determining whether to discard the

3   message, discarding the message when the message is to be discarded, and not

4   transmitting the message when the message is to be discarded.

1   **22.**   The system as recited in claim **18**, wherein the first wrapper and

2   second wrapper are further capable of determining whether to modify the

3   message, modifying one or more elements of the message when the message is

4   to be modified.

1   **23.**   The system as recited in claim **18**, wherein the second wrapper is

2   further capable of periodically transmitting an outgoing message to maintain the

3   connection until the application is restored.

1   **24.**   The system as recited in claim **18**, wherein the first wrapper and

2   second wrapper are further capable of periodically storing a current state of the

3   server and discarding any stored elements that are no longer needed to restore

4   the server to the current state.

1   **25.**   The system as recited in claim **18**, wherein the message is a

2   protocol segment.

1   **26.**   The system as recited in claim **18**, wherein the message conforms

2   to the Transmission Control Protocol (TCP) standard.

1   **27.**   The system as recited in claim **15**, wherein the log server is

2   remotely located from the server.

1   **28.**   The system as recited in claim **15**, wherein the log server is a

2   stable memory in the server.

1   **29.**   The system as recited in claim **15**, wherein the log server is a

2   secondary server.